

CLAIMS

- 1 1. An apparatus for providing electroporation therapy for benign prostatic
2 hyperplasia, said apparatus comprising:
3 a urethral applicator configured for insertion into a urethra, said applicator
4 including:
5 a substantially hollow probe, said probe portion including first, second and
6 third probe portions, said first probe portion being configured for
7 insertion into the penile urethral segment and said third probe
8 portion being configured for insertion into the prostatic urethral
9 segment, said first and third probe portions defining first and
10 second probe portion longitudinal axes, wherein said axes are not
11 collinear with each other and wherein said second probe portion
12 lies between said first and third probe portion;
13 a handle, said handle being attached to said probe;
14 a plurality of needle electrodes, said electrodes being mounted within said first
15 probe portion for reciprocal movement into and out of said first probe
16 portion substantially parallel to the urethra, said electrodes being provided
17 for connection to an electric pulse generator;
18 wherein when said applicator is disposed in operating position, said needle electrodes
19 may be advanced into benign prostatic hyperplasia tissue for electroporation
20 therapy.
2. The apparatus of claim 1 wherein said first and second probe portion longitudinal
axes are parallel.
3. The apparatus of claim 1 wherein said first and second probe portion longitudinal
axes are non-parallel.

4. The apparatus of claim 1 wherein said third probe portion is uninsulated and is provided for electrical connection to a pulse generator.
5. The apparatus of claim 1 wherein said first probe portion has a greater cross-sectional area than said third probe portion.
6. The apparatus of claim 1 wherein said needle electrodes are curved.
7. The apparatus of claim 1 wherein said needle electrodes are bent.
8. The apparatus of claim 1 and further including a flexible fiber optic endoscope.
9. The apparatus of claim 1 and further including an electric pulse generator.
10. The apparatus of claim 9 wherein said third probe portion is uninsulated and is electrically connected to a said electric pulse generator.
11. The apparatus of claim 1 wherein said first and third probe portions are longitudinally offset relative to each other.
12. The apparatus of claim 1 wherein said first and third probe portions are angularly off-set relative to each other.
13. The apparatus of claim 1 wherein said needle electrodes are electrically insulated from each other and said applicator.

14. The apparatus of claim 1 wherein said handle includes a lever engaged with said needle electrodes to enable the operator to selectively advance and retract said needle electrodes.

1 15. A method of providing electroporation therapy for benign prostatic hyperplasia
2 comprising:
3 providing an applicator including a probe having a proximal probe portion
4 and a distal probe electrode portion, said portions each defining non-
5 collinear longitudinal axes, said probe including at least one electrode for
6 electroporation therapy;
7 inserting the applicator into a patient's urethra to dispose the distal probe portion
8 in the prostatic urethral segment and the proximal probe portion in the
9 penile urethral segment and to displace the patient's prostate gland
10 sideways relative to the proximal probe portion;
11 advancing at least a first electrode into the benign prostatic hyperplasia tissue; and
12 applying electric pulses to the distal probe electrode portion and the at least first
13 electrode to generate electroporating electric fields.

1 16. The method of claim 15 and further including:
2 retracting the at least first electrode following the completion of
3 electroporation therapy at a first site
4 rotating the probe a preselected amount;
5 advancing the at least first electrode into the benign prostatic hyperplasia tissue at
6 a new location in the tissue; and
7 applying electric pulses to the distal probe electrode portion and the at least first
8 electrode to generate electroporating electric fields.